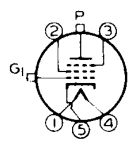
954
DETECTOR AMPLIFIER PENTODE
ACORN TYPE

Especially for wavelengths as short as 0.7 meter

Heater	Coated Unipotential Cathode	
Voltage	6.3	a-c or d-c volts
Current	0.15	amp.
Direct Interelectrode Capacitances:		
Grid to Plate●	0.007 max.	μμf
Input	3.4	μμf
Output	3.0	μμf
Overall Length		1-11/16" ± 3/16"
Overall Diameter		1-3/32" ± 1/16"
Bulb	*See Outline in GENERAL SECTION*	T-4½
End Terminals	*See Outline in GENERAL SECTION*	Two
Base	*See Outline in GENERAL SECTION*	Small Radial 5-Pin

Pin 1 - Heater
Pin 2 - Grid No.2
Pin 3 - Grid No.3
Pin 4 - Heater
Pin 5 - Cathode
P - Plate
G_1 - Grid No.1



RCA Socket	Stock No.9925
RCA Grid & Plate Clips	Stock No.9939
Mounting Position	Any

P is on Long Part of Bulb: Top
G_1 is on Short Part of Bulb: Bottom
BOTTOM VIEW (5BB)

Maximum and Minimum Ratings Are Design-Center Values

A-F AMPLIFIER

D-C Plate Voltage	250 max.	volts
D-C Screen (Grid No.2) Voltage	100 max.	volts
D-C Grid (No.1) Voltage	-3 min.	volts
Plate Dissipation	0.5 max.	watt
Screen Dissipation	0.1 max.	watt
D-C Heater-Cathode Potential	80 max.	volts

Characteristics— Class A_1 Amplifier:

D-C Plate Voltage	90	250	volts
Suppressor (Grid No.3)	Connected to cathode at socket		
D-C Screen Voltage	90	100	volts
D-C Grid Voltage■	-3	-3	volts
Plate Resistance	1.0	Greater than 1.0	megohm
Transconductance	1100	1400	μmhos
D-C Plate Current	1.2	2.0	ma.
D-C Screen Current	0.5	0.7	ma.

Typical Operation with Resistance-Coupling:

Plate-Supply Voltage○	250	volts
Suppressor	Connected to cathode at socket	
D-C Screen Voltage	50	volts
D-C Grid Voltage■	-2.1	volts
Load Resistance	0.25	megohm
D-C Plate Current	0.5	ma.
Second Harmonic Distortion	5	%
Voltage Output	40 to 50 RMS	volts
Voltage Gain	100 approx.	

●, ■, ○: See next page.

← Indicates a change.

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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DETECTOR AMPLIFIER PENTODE

(continued from preceding page)

DETECTOR

D-C Plate Voltage	250 max.	volts
D-C Screen (Grid No.2) Voltage	100 max.	volts
→ D-C Heater-Cathode Potential	80 max.	volts
Typical Operation — Biased Detector:		
Plate-Supply Voltage°	250	volts
Suppressor (Grid No.3)	Connected to cathode at socket	
D-C Screen Voltage	100	volts
D-C Grid (No.1) Voltage	-6 approx.	volts
Load Resistance	0.25	megohm
D-C Plate Current	Adjusted to 0.1 ma. with no input signal	
Cathode Resistor	20000 to 50000	ohms

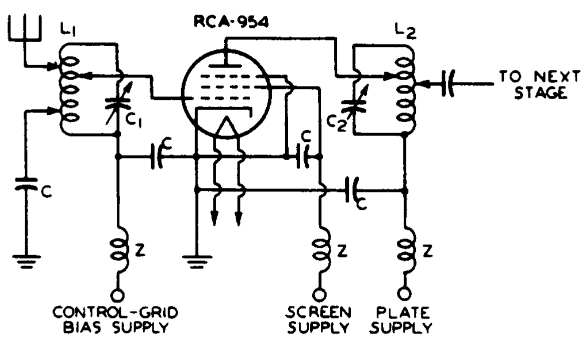
● With shield baffle.

■ Under maximum rated conditions, the resistance in the grid circuit should not exceed 0.5 megohm with fixed bias, or 1.0 megohm with cathode bias.

o This is a plate-supply voltage value. The voltage effective at the plate will be plate-supply voltage minus the voltage drop in load caused by the plate current.

R-f grounding by means of condensers placed close to the tube terminals is required if the full capabilities of the 954 for ultra-high-frequency uses are to be obtained. It is important in the cases of the plate and control-grid circuits that separate r-f grounding returns be made to a common point in order to avoid r-f inter-action through common return circuits. It may also be advisable in some applications to supplement the action of the by-pass condensers by r-f chokes placed close to the condensers in the return or supply lead for the grid, the screen, the suppressor, the plate, and the heater.

TYPICAL R-F AMPLIFIER CIRCUIT



For ultra-high frequencies, coils L1 and L2 may be tapped at suitable points determined by test to reduce effect of tube loading on circuit impedances.

Because electronic plate loading is not serious in a pentode, the use of coil L2 with tapped plate connection may not be necessary to give satisfactory results.

The condensers should all be of high quality and be designed for ultra-high frequency operation.

The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.

WAVE-LENGTH RANGE		2.75 TO 5.3 METERS APPROX.	1 TO 3 METERS APPROX.	0.8 METER APPROX.
L_1, L_2	TURNS	10	4	5
	WIRE	No16 B.C.*	No16 B.C.*	No30 B.C.*
	OUTSIDE DIA.	3/8"	3/8"	1/8"
	LENGTH	3/4"	5/16"	1/8"
C_1, C_2 (VARIABLE)		3 TO 25 μμf	3 TO 25 μμf	3 TO 4 μμf
C		100 TO 500 μμf	100 TO 500 μμf	100 TO 500 μμf
Z	TURNS	15	15	15
	WIRE	No30	No30	No30
	OUTSIDE DIA.	1/4"	1/4"	1/4"
	WINDING	S.L.°	S.L.°	S.L.°

92CM-4386R2

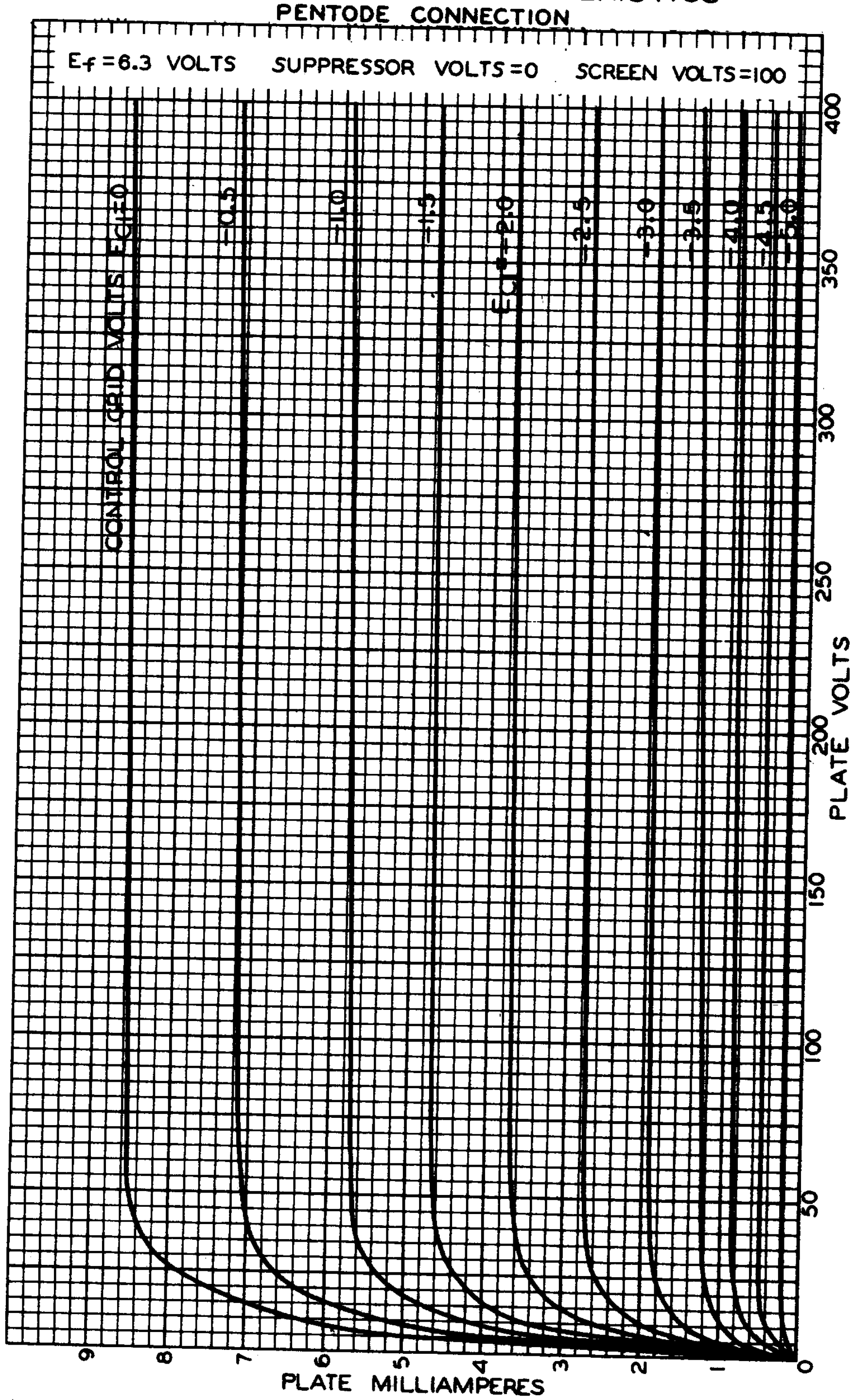
*B.C. = BARE COPPER °S.L. = SINGLE LAYER

← Indicates a change. NOTE: THE ABOVE DATA ARE NECESSARILY APPROXIMATE

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AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION



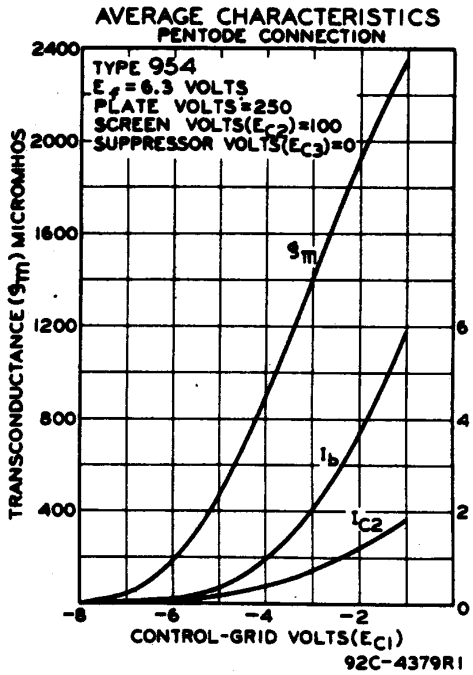
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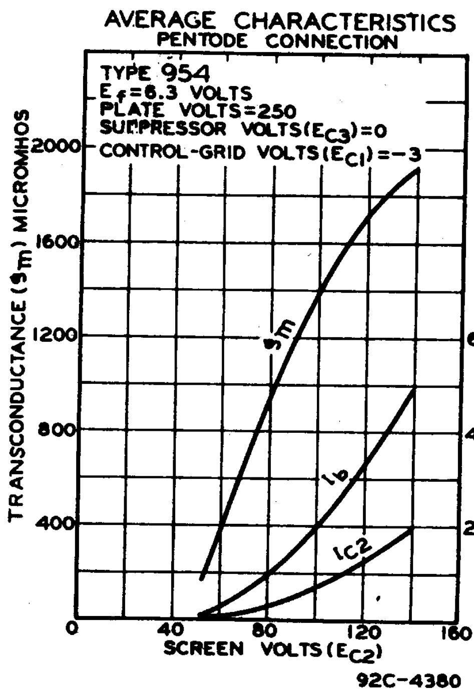
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92C-4378

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CHARACTERISTICS CURVES





July 1, 1941

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92C-4379R1
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